Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Fernald	Commercial - TBD	NM-NISS (BAF - Stream)	TBD	31596			? / ?				Insufficient material characterization. No packaging or shipping data identified for the transportation campaign.	
Fernald	Portsmouth	NM-LEU (BAA - Stream)	Type A - 7A, Type AF (SBWSC)	31006	? / ?						No shipping data identified for the transportation campaign.	
Fernald	SRS	NM-NISS (BAG - Stream)	TBD	31597			? / ?				Insufficient material characterization. No packaging or shipping data identified for the transportation campaign.	
Fernald	TBD	NM-NISS (BAK - Stream)	TBD	31605			? / ?				Insufficient material characterization. No destination, packaging, or shipping data identified for the transportation campaign.	
Rocky Flats	Commercial - TBD	NM-NISS (Beta Gamma Sources to Commercial Use)	Self-contained	30541					20 / 1		No destination identified for the transportation campaign.	
Rocky Flats	Envirocare	NM-NISS (Packaged SS-6/7 to Envirocare for Commercial Disposal)	TBD	30561						? / ?	No packaging or shipping data identified for the transportation campaign.	
Rocky Flats	Lawrence Livermore	NM-NISS (Packaged Specials to LLNL)	9975	31621	12 / 1							

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Rocky Flats	Oak Ridge	NM-NISS (Packaged SS-4 to ORNL)	IP	30560						? / ?	No shipping data identified for the transportation campaign.	
Rocky Flats	Oak Ridge	NM-NISS (NS-1/NS-2 to ORNL)	TBD	30549	? / ?						No packaging or shipping data identified for the transportation campaign.	
Rocky Flats	Oak Ridge	NM-NISS (Packaged NS-3 to ORNL Prog. Use)	TBD	30550						? / ?	No packaging or shipping data identified for the transportation campaign.	
Rocky Flats	SRS	NM-Np-237 (Packaged Np237 to SRS)	ES-2100	30563						? / ?	ES 2100 as a suggested container. It is available but not certified. This is part of the LLW Stream.	
Rocky Flats	TBD	NM-NISS Classified TRU Shapes)	IP	7248						? / ?	No destination or shipping data identified for the transportation campaign.	
ANL-W	INEEL	NM-NISS (Moderate Beta Gamma Sources)	TBD	30370						? / ?	No packaging or shipping data identified for the transportation campaign.	
ANL-W	INEEL	NM-NISS (ZAI - Stream)	TBD	30875						? / ?	No packaging or shipping data identified for the transportation campaign.	
ANL-W	INEEL	NM-NISS (ZAK - Stream)	TBD	30877						? / ?	No packaging or shipping data identified for the transportation campaign.	
ANL-W	INEEL	SNF (ANL-W SNF)	NAC-LWT	4461		? / ?	? / ?	? / ?	? / ?		No shipping data identified for the transportation campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
ETEC	TBD	TRU (TRU Waste (from ER))	RH-72B or CNS 10-160B	1688	? / ?						Insufficient characterizing, sampling, and repackaging resources. No destination or shipping data identified for the transportation campaign.	
General Atomics	INEEL	SNF (Hot Cell Facility Irradiated Fuel Materials - High-Temperature Gas-Cooled Reactor (HTGR))	T-2 or NAC-LWT	4265		1 / 1					The T-2 is the preferred container, however, the receiving facility is not equipped to handle this shipping cask. There will be one shipment of RERTR (stream # 4266) and HTGR (stream # 4265) to the INEEL in the T-2 cask consisting of two cans.	
General Atomics	INEEL	SNF (Hot Cell Facility Irradiated Fuel Material - Reduced-Enrichment Research and Test Reactor (RERTR))	T-2 or NAC-LWT	4266							The T-2 is the preferred container, however, the receiving facility is not equipped to handle this shipping cask. There will be one shipment of RERTR (stream # 4266) and HTGR (stream # 4265) to the INEEL in the T-2 cask consisting of two cans.	
General Atomics	TBD	SNF (TRIGA Reactor SNF)	NAC-LWT	1725				? / ?			No destination or shipping data identified for the transportation campaign.	
Hanford	Commercial - TBD	NM-AmCm (TAL - Stream)	S-100	7243							No destination or shipping data identified for the transportation campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Hanford	Los Alamos	NM-Am-241 (DPP - Stream)	S-100	7225	4 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Los Alamos	NM-AmCm (DKL - Stream)	S-100	7226	? / ?						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Los Alamos	NM-BkCf (GGG - Stream)	S-100	7261	4 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Los Alamos	NM-NISS (VAE - Stream)	S-100	7246						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Los Alamos	NM-NISS (BBB - Stream)	S-100	31217	2 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Los Alamos	NM-Np-237 (DNN - Stream)	S-100	7224	5 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-Am-241 (BAA - Stream)	S-100	31390							The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Hanford	Oak Ridge	NM-AmCm (TAA - Stream)	S-100	7240	2 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-AmCm (TAK - Stream)	S-100	7242	2 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-AmCm (BAH - Stream)	S-100	31397	2 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-BkCf (BAH - Stream)	S-100	31400	4 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-NISS (VEH - Stream)	S-100	7250						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-NISS (BAT - Stream)	S-100	31208	1 / 1						The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Hanford	Oak Ridge	NM-NISS (BAY - Stream)	S-100	31424							The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Hanford	Oak Ridge	NM-Np-237 (DMM - Stream)	S-100	7223							The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
INEEL	ANL-W	SNF (INTEC EBR II Metallic Sodium Bonded)	HFEF-6	2305				1 / 6	1 / 6		Out of Commerce shipment, requires closure of a state highway.	
INEEL	ANL-W	SNF (INTEC EBR II Metallic Sodium Bonded)	NAC-LWT	2305			1 / 10	1 / 18	1 / 18		NAC-LWT is not certified for all INEEL fuel types.	
INEEL	Nuclear Fuel Services	NM-LEU (GAE - Stream)	6M	4598						? / ?	No shipping data identified for the transportation campaign.	
INEEL	Nuclear Fuel Services	NM-LEU (GAD - Stream)	6M	7268						35 / 1	No shipping data identified for the transportation campaign.	
INEEL	SRS	SNF (Dried/Packaged Al Based SNF)	NAC-LWT	736			1 / 1				NAC-LWT is not certified for all INEEL fuel types.	
INEEL	TBD	SNF (Fermi Blanket)	Peach Bottom	4451				1 / 2	1 / 2		No destination identified for the transportation campaign.	
Lawrence Berkeley	Oak Ridge	NM-NISS (BAQ - Stream)	S-100	30504						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Lawrence Livermore	Los Alamos	TRU	OTMX	0						? / ?	Insufficient characterizing, sampling, and repackaging resources. No shipping data identified for the transportation campaign.	
Lawrence Livermore	Oak Ridge	NM-NISS (BBD - Stream)	S-100	30525						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Lawrence Livermore	Oak Ridge	NM-U-233 (BBS-Stream)	DC-1	30206						? / ?	No shipping data identified for the transportation campaign.	
Los Alamos	Commercial - TBD	NM-NISS (BBC - Stream)	S-100	31361						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	Commercial - TBD	NM-NISS (BBP - Stream)	S-100	31371						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	Commercial - TBD	NM-NISS (BBT - Stream)	S-100	31384						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	Oak Ridge	NM-AmCm (BAQ - Stream)	5320	31272						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Los Alamos	Oak Ridge	NM-NISS (BBE - Stream)	S-100	31362						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	Oak Ridge	NM-NISS (BCB - Stream)	S-100	31388						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	TBD	NM-NISS (Neutron Sources)	S-100	31372						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	TBD	NM-NISS (Neutron Sources)	S-100	31373						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
Los Alamos	TBD	NM-Np-237 (BCG - Stream)	S-100	31338						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign. No shipping data identified for the transportation campaign.	
New Brunswick	ANL-E	NM-NISS (BAI - Stream)	S-100	30440						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
NTS	Commercial - TBD	NM-NISS (BAI - Stream)	S-100	31496						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
NTS	Oak Ridge	NM-NISS (BAO - Stream)	S-100	31495						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	
NTS	TBD	TRU (Legacy MTRU Boxes)	TBD	1056						58 / ?	Insufficient characterizing, sampling, and repackaging resources. No destination, packaging, or shipping date identified for the transportation campaign.	
NTS	WIPP	TRU (Disposal Ready TRU Material)	TBD	7302						? / ?	Insufficient sanitization and repackaging resources. No packaging or shipping data identified for the transportation campaign.	
Oak Ridge	Commercial - TBD	NM-Am-241 (BJC//Am-241 Oxide-Tower Shielding Facility-4 items)	5320	31765						? / ?	No destination or shipping data identified for the transportation campaign.	
Oak Ridge	Commercial - TBD	NM-NISS (BJC// Pu-239 Source at TSF (1 Item))	S-100	31768						? / ?	The S-100 Pipe Overpack is being developed by OSRP (Rev. 21), and is intended to be used for this shipping campaign.	

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Oak Ridge	Hanford	LLW (RH Post-Treatment)	TBD	1612			24 / 24	18 / 18	14 / 14		No packaging identified for the transportation campaign.	
Oak Ridge	INEEL	SNF (Repackaged SS, Zir, Graph SNF in Facility 7827)	TN-FSV	264	5 / 5							
Oak Ridge	NTS	LLW (Treated Solidified LLW Supernate)	TBD	2626		19 / 19	57 / 57	56 / 56			No packaging identified for the transportation campaign.	
Oak Ridge	NTS	LLW (RH LLW-4 (Beryllium Reflectors))	TBD	4340					4 / 4		No packaging identified for the transportation campaign.	
Oak Ridge	NTS	LLW (Treated LLW Solids to NTS)	TBD	4523	86 / 86	86 / 86	86 / 86	86 / 86	86 / 86		No packaging identified for the transportation campaign.	
Oak Ridge	Portsmouth	DUF6	TBD	0						? / ?	No packaging or shipping data identified for the transportation campaign.	
Oak Ridge	SRS	SNF (HFIR SNF)	GE-2000 Cask	4448	13 / 13	13 / 13	13 / 13	13 / 13	13 / 13			
Oak Ridge	TBD	NM-NISS (BBT -Stream)	TBD	30972						? / ?	No destination, packaging, shipping data identified for the transportation campaign.	

Environmental Management Commercial Shipments
Type B and Type A (F) Packaging Gaps Analysis
3/25/02

Shipper	Receiver	Material	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
					FY02	FY03	FY04	FY05	FY06	TBD		
Sandia	INEEL	SNF (SNL SNF2, Sodium Bonded (PNL Mixed Matl's))	TBD	30100					? / ?		No packaging or shipping data identified for the transportation campaign.	
Sandia	Oak Ridge	NM-NISS (BBA - Stream)	IP	31053						? / ?	No shipping data identified for the transportation campaign.	
Sandia	Tennessee Valley Authority	NM-LEU (BAI - Stream)	6M	31034						? / ?	No shipping data identified for the transportation campaign.	
SRS	Oak Ridge	NM-NISS (ZAS - Stream)	Type 7A	31517						10 / ?	No shipping date identified for the transportation campaign.	
SRS	Oak Ridge	NM-NISS (BEJ - Stream)	Type 7A (or 6M while available)	30681						1 / 1	No shipping date identified for the transportation campaign.	
SRS	Oak Ridge	NM-NISS (ZAR - Stream)	Type 7A (or LLW pkg.)	31518						? / ?	No shipping data identified for the transportation campaign.	
SRS	Oak Ridge	NM-Np-237 (Np-237 Oxide for Pu-238 Production)	6M or ES2100	31722				? / ?			No shipping data identified for the transportation campaign. ES-2100 is available but not certified.	
SRS	TBD	NM-NISS (Moderate Beta Gamma Sources)	IP	30674						? / ?	No destination or shipping data identified for the transportation campaign.	
West Valley	INEEL	SNF (Spent Nuclear Fuel)	TN-REG / TN-BRP	273						2 / 1	No shipping date identified for the transportation campaign.	

Lines highlighted in Yellow are closure sites

Site	Site Comments
ANL-E	At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas. Michael Klimas DOE Chicago Traffic Manager
ANL-W	At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas. Michael Klimas DOE Chicago Traffic Manager
Brookhaven	At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas. Michael Klimas DOE Chicago Traffic Manager

Site	Site Comments
ETEC	ETEC (Energy Technology Engineering Center) is a former DOE nuclear facility that is now performing final cleanup under a DOE site closure contract. The Contract closure date is September 2006. The critical path is the removal of the TRU waste that is currently in on-site storage. That waste must be removed by the end of September 2002 to meet the DOE site closure schedule. The ETEC site is located within the Boeing Rocketdyne Division's Santa Susana Field Laboratory, which is in the Simi Hills near Canoga Park, California. Boeing owns the land occupied by the DOE facilities. The ETEC TRU waste inventory includes approximately 2.3 m3 of CH waste and 8.7 m3 of RH waste (storage volume, when on-going repackaging activities are completed). The CH waste includes 7 drums of non-mixed debris waste and 4 drums of mixed (RCRA) homogeneous waste. The RH TRU is predominantly homogeneous mixed waste that has a PCB concentration of about 100-ppm. The DOE-HQ baseline path forward for the ETEC CH waste is shipment to the Centralized Characterization Facility (CCF) at WIPP using mobile vendors when the associated WIPP mod is approved and implemented. We do not expect that mod to be approved in time to meet our September 2002 critical path milestone. Also, the mobile vendors do not plan to develop coring and sampling capabilities to certify homogeneous waste for WIPP disposal. A proposed WIPP mod to delete the homogeneous waste sampling requirement is still in the planning stages and is not expected to be implemented in time to meet ETEC requirements. An alternative that has been considered recently for the ETEC CH waste is shipment to LLNL (Lawrence Livermore National Laboratory) for certification by mobile vendors. However, it is our understanding from DOE-Oakland that the LLNL RCRA Part B permit will not allow receipt of off-site waste. If the LLNL Part B permit were changed (or if our understanding were incorrect), the inability of the mobile vendors to certify our homogeneous waste remains. The waste drums could be characterized and certified in all other aspects, but would have to remain at some storage site until a WIPP mod addressing homogeneous waste is approved. The DOE-HQ baseline path forward for the ETEC RH waste is certification at ETEC based on Acceptable Knowledge and shipment directly to WIPP for disposal. That requires a separate WIPP RH permit mod that is expected to be submitted in November, but which we do not expect to be implemented in time to meet ETEC requirements. A WIPP EPA PCB mod (in process) is also required. An alternative (including both RH and CH) is intersite shipment to either Hanford or Oak Ridge, for which political negotiations between DOE-HQ and the state of Washington or Tennessee are required. Transportation of the CH waste is expected to be by TRUPACT-II. Transportation of the RH waste is expected to use the RH-72B or the Duratek 10-160B cask. A third alternative for part of the RH waste is a shielded pipe component in TRUPACT-II. However, that option changes the waste certification requirements from RH to CH, requiring certified characterization processes that may not be obtainable for this High specific activity waste. Dennis Kneff Boeing Rocketdyne

Site	Site Comments
Fermi	At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas. Michael Klimas DOE Chicago Traffic Manager
Hanford	The DOT-6M container is being removed from DOE nuclear materials transport service in the SST and may soon be discontinued for any DOE transportation use altogether. The new 9975 certification/supporting SARP does not allow Hanford to ship SNM in its current 3013 container configuration. RL is working with SR to include the Hanford 3013 packaging configuration in the next revision to the 9975 SARP. We are also pursuing including Hanford SNM forms and packaging into the LANL-designed SAFKEG as it moves toward certification. For onsite shipments of materials transferred to the CWC and ultimately to WIPP, we have the established an operational Pipe Over-pack Process at PFP. The biggest problem is getting a shipping container certified for differing material types and forms whose packaging is in excess of 20 curies of activity. Certification for the 9975 container has taken over 3 years and is still highly restrictive on contents and packaging configurations. • 9975 Certificate of Compliance USA/9975/B(M)F-85 needs to be certified for Hanford 3013 Packaging. • SAFKEG 3940A needs to be certified for Hanford contents and packaging configurations. A combined total of 500 SAFEKEG and 9975 will be purchased in FY 2006. When emptied at SRS, they will be returned to RL to be loaded and shipped again.

Site	Site Comments
INEEL	Money transfer for off-site shipment (disposal) The INEEL LLW Program is generator certified for contact handled LLW disposal at Hanford and will be certified for contact handled LLW disposal at the Nevada Test Site (NTS) in the near future. Verbal notification of INEEL generator certification approval has been received from NTS and official certification documentation should be received shortly. With these certifications the INEEL will have three DOE LLW disposal facility options (INEEL RWMC, NTS, Hanford) for disposal of INEEL generated LLW. The on-site disposal option at the INEEL RWMC, as currently forecast and planned, will be volume filled by 2020. At this time 100% of INEEL LLW will require off-site disposal. To achieve the 2020 date, off-site contact handled LLW disposal will be ramped up over the next 18 years, while 100% remote-handled LLW disposal will continue at the INEEL to approximately 2016. At 2016 remote-handled off-site disposal will ramp-up to 100 % by 2020. Off-site disposal facilities require generators to provide a waste disposal forecast in May of each year for the current year on a monthly volume basis and for the following three years for annual volumes. This forecasting allows the receiving disposal facility to plan for necessary resources to receive and dispose of the LLW. The receiving facilities also require inter-office transfer of funding for the current year based on the monthly volume forecast. This funding has to be received before any waste stream shipments can be made. Any deviation from the forecast volume (increases or decreases) have to be communicated and funding adjusted appropriately. Any funding remaining at the receiving facility at the end of fiscal year will be returned to the generator or carried over to the next year if the generator desires. Improving forecasting of LLW off-site disposal will become more important for providing accurate funding transfer as the INEEL LLW disposal capacity is filled. Cost Charge Back for disposal costs and shipping of RH- LLW for off-site disposal. The disposal rates have varied from year to year because the volume disposed at the off-site disposal facility varies. They base their cost per m3 based on how much waste they dispose. The more waste the less cost per m3. The less waste the more cost per m3. The cost per m3 has been going down over the last two years as both disposal facilities are seeing an increase waste volume. However, if they were to see a significant increase they might have to add resources and equipment that could increase costs. Carlan Mullen, INEEL Document Plans for Waste Streams for HLW The HLW are beyond the scope of this report. There are no shipments scheduled prior to 2010.
Lawrence Berkeley	Due to time and resource restrictions, the information will be provided in the next update. The procedure must go through the chain of command to be completed by the contractors. They will begin to prepare the information for the next update. Per Ron Claverie Traffic Manager, DOE Oakland

Site	Site Comments
Los Alamos	The 15 streams on the attached data sheets appear to be part of the nuclear materials data that was seeded into IPABS for the first time this year, based on the "Material Type" entries. These are all nuclear material, as opposed to waste designations. Because you stated that you need an answer today, I would recommend answering "No" for the question "Has a Packaging been selected?" for each of these 15 streams. Packaging and transportation needs for nuclear material are being worked, with a focus on the near-term needs due to resource limitations. Most of these streams represent out-year activities, which will be worked in the near future. The Nuclear Materials Stewardship Program [NMSP] worked closely with the IPABS team to seed the information that was available. NMSP is working with the sites, which own the data, to update their IPABS entries. Several sites were visited and assisted this Fiscal Year, and this activity will continue in FY-2002, subject to available funding at NMSP and the sites. Michael Gates, DOE-AL / NMSPO NTP comment: The 15 streams include streams from Los Alamos, Sandia. All Pantex shipments previously reported are being documented by NNSA.
Lawrence Livermore	Due to time and resource restrictions, the information will be provided in the next update. The procedure must go through the chain of command to be completed by the contractors. They will begin to prepare the information for the next update. Per Ron Claverie Traffic Manager, DOE Oakland NTP comment: At the Small Quantities Workshop, 9/11/01, Traci Taul met with Paul Ko to discuss 31 oversize boxes of TRU waste.
Miamisburg (Mound)	No nuclear materials requiring Type B or Type A-Fissile packaging per Ron Rosman.
New Brunswick	At this point the transportation data requested is unknown. As a result, I put TBD in all the empty blocks on the attached files. If you have any questions contact Tony Bindokas. Michael Klimas DOE Chicago Traffic Manager
NTS	Per my conversation with Tony Bufis, currently Nevada doesn’t have any scheduled requirements for the packagings mentioned in the survey. Thanks, Lee J. Stevens Nevada Operations Office
Oak Ridge	Removed all the NM-HEU and NM-LEU from this report for Oak Ridge, Portsmouth and Paducah per Sherrie Redmond at OR. She indicated it would be under NNSA. Shirley Cox of OR has been asked to identify packagings and schedules for remaining nuclear materials at Oak Ridge, Portsmouth and Paducah. No response to date. NTP received conflicting information concerning the LLW. NTP has contacted John Patterson and Dayne Thomas to verify if LLW will need Type B containers. Previously, the traffic manager indicated that all LLW would be shipped in Type A containers. To date, no response from Dayne Thomas.

Site	Site Comments
Oak Ridge	The TNSV (TN-FSV) is at NRC for review and we expect no problems, all we are doing is requesting a different payload configuration. Any non-NNSA FISSILE shipments already have the package requirements identified with current packages. Parris Brady Lester DOE Oak Ridge, Operations NTP comment: If approved for the different payload configuration, the TN-FSV will be used in place of the GE-2000 Cask.
Oak Ridge	The NNSA Y-12 Area Office does not plan to respond to this request. I am not sure what the source of your data is that references disposition maps or paths that may be outdated. I am also not sure why you are reporting on NNSA HEU shipping plans. Y-12 and MD are part of the Packaging and Shipping Committee and are also represented on our packaging and shipping needs assessment. Our needs assessment effort is intended to evaluate complex wide national security and excess HEU inventories and to identify new shipping package requirements (most specifically to replace the 6M2R). The majority of HEU users and storage sites are represented on our assessment team and will be contacting any other program or site that is not on the team to review our data and recommendations. Becky Eddy NNSA Y-12 Area Office
Paducah	Removed all the NM-HEU and NM-LEU from this report for Oak Ridge, Portsmouth and Paducah per Sherrie Redmond at OR. She indicated it would be under NNSA. Shirley Cox of OR has been asked to identify packagings and schedules for remaining nuclear materials at Oak Ridge, Portsmouth and Paducah. No response to date.
Portsmouth	Removed all the NM-HEU and NM-LEU from this report for Oak Ridge, Portsmouth and Paducah per Sherrie Redmond at OR. She indicated it would be under NNSA. Shirley Cox of OR has been asked to identify packagings and schedules for remaining nuclear materials at Oak Ridge, Portsmouth and Paducah. No response to date.

Site	Site Comments
Rocky Flats	From the Draft Issue Paper “Schedule Impacts of DT-22 Certification on Rocky Flats SNM Shipping”: - LLNL is currently close to MAR limits in the Superblock vaults. Therefore, before LLNL can receive RFETS SNM shipments, they must first transport SNM to SRS for storage. They may have been able to ship as early as January 02, however they are precluded from shipping until the South Carolina issue is resolved. - KAMS requires modification before the facility can store the composite parts. Originally the modifications were scheduled to be completed by August 02. Subsequently, the contractor was incentivized to complete modifications by June 02. SRS is currently on schedule, however KAMS modifications are not critical path. If RFETS ships DT-22’s before the KAMS modifications are complete, SRS can temporarily store the SNM in 235-F. - There are 48 Pu composite parts and 77 Pu/EU composite parts that exceed 1,000 A2. These parts will be shipped under a one-time National Security Exemption (NSE) and not under a certificate in the DT-22. DOE-AL has indicated that the NSE, currently scheduled for May 02, may be candidate for acceleration. - The 277 contaminated HEU parts will be shipped under the 20006 certificate while the 95007 certificate will cover the 21 Pu composite parts to LLNL and the 8 Pu/EU composite parts to SRS. NTP could not cross-reference the 277 containers of “Contaminated HEU” referenced in the above issue paper. The paper indicates the HEU will be shipped under certificate # 20006 of the DT-22 SARP. There are no HEU streams for Rocky Flats in IPABS. - DT-22’s will be acquired from Y-12 according to a pre-determined schedule. Y-12 currently has DT-22’s available to support the 95007 certificate. However, before Y-12 can supply the DT-22’s to support the 20006 certificate, the containers require additional maintenance. Y-12 has scheduled maintenance so that the 20006 certificate DT-22’s will be available in March 02. To process the DT-22’s prior to the scheduled time requires relegating high priority NNSA maintenance activities. The certificate should be available in December 2001. - To date, the Plutonium Stabilization and Packaging System (PuSPS) throughput capacity may impact the Pu metals and Pu oxides shipping campaigns. PuSPS processing is required prior to packaging and transporting these materials in 9975 containers to SRS. It has not been able to sustain a throughput rate that would support one four-truck convoy per month. RFFO believes that the throughput capacity can be improved. Conclusion: - The DOE-AL DT-22 certifications are not critical path in the Rocky Flats SNM shipment schedule. Furthermore, EM-33 does not anticipate significant schedule slippage in the DOE-AL certifications. - Areas that may potentially impact RFETS closure include SST availability and PuSPS throughput capacity. RFFO, in conjunction with EM-33, are closely monitoring these areas. Per Gary R. Peterson, EM-33

Site	Site Comments
Sandia	The 15 streams on the attached data sheets appear to be part of the nuclear materials data that was seeded into IPABS for the first time this year, based on the "Material Type" entries. These are all nuclear material, as opposed to waste, designations. Because you stated that you need an answer today, I would recommend answering "No" for the question "Has a Packaging been selected?" for each of these 15 streams. Packaging and transportation needs for nuclear material are being worked, with a focus on the near-term needs due to resource limitations. Most of these 21 streams represent out-year activities that will be worked in the near future. The Nuclear Materials Stewardship Program [NMSP] worked closely with the IPABS team to seed the information that was available. NMSP is working with the sites, which own the data, to update their IPABS entries. Several sites were visited and assisted this Fiscal Year, and this activity will continue in FY-2002, subject to available funding at NMSP and the sites. Michael Gates, DOE-AL / NMSPO NTP comment: The 15 streams include streams from Los Alamos, Sandia. All Pantex shipments previously reported are being documented by NNSA. *There are no Type B packagings available for identified neutron sources > 15 Ci for AM-241/Li. However, for AM-241/Be > 20 Curies there are two packagings authorized for shipments: USA/0302/B(U) U.K. Design 0666AW and the S-100 pipe overpack in Trupact-II. Cathy Ottinger

*There are a total of 413 Items – 1,006 Ci of Am-241, 427 items – 47 Ci of Cf-252, 8 Items – 711 Ci of Cm-244, 22 Items – 14 Ci of Ra-226 and 1 Item - <1 Ci of Th-Be-228 that have been identified by Cathy Ottinger across more than 19 DOE Sites. NTP will continue to track the disposition of the neutron sources as more information about the packaging and transportation issues are determined.

Non-EM Shipment and Receipts
Type B and Type A-Fissile Packaging Report 2001-2010 Baseline for the INEEL

There are other programs, in addition to EM, planning to use Type B and Type A-Fissile packaging. Although non-EM transportation activities are beyond the scope of this Gaps Analysis, the packagings planned for use through 2010 for the INEEL's NE program may have an impact on EM shipping campaigns. Because of the possible impact the following table has been added to the Gaps Analysis.

ATR Non-Naval Reactors Experiments (Fissile)

Shipper	Receiver	Material	Radionuclide(s)	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
						FY02	FY03	FY04	FY05	FY06	TBD		
INEEL	Oak Ridge	Np-237 Array (Pu-238 production)	Np-237, Pu-238, actinides, fission products	GE-100		? / ?							
Oak Ridge	INEEL	Subsequent Np-237 Target Experiments	Np-237	6M							? / ?	There is a concern that potential regulatory changes may affect availability of Specification 6M's [Note 1].	
INEEL	Oak Ridge	Subsequent Np-237 Target Experiment(s)	Np-237, Pu-238, actinides, fission products	GE-100							? / ?	There is a concern that potential regulatory changes may affect availability of GE-100 [Note 21].	

ATR Non-Naval Reactors Experiments (Fissile)

Shipper	Receiver	Material	Radionuclide(s)	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
						FY02	FY03	FY04	FY05	FY06	TBD		
INEEL	Oak Ridge	MOX (fuel experiment)	Actinides, fission products, neutron activation of non-fuel components	GE-100		? / ?	? / ?					The 2003 shipment is for the last three MOX fuel capsules of this experiment. There is a concern that potential regulatory changes may affect availability of GE-100 [2].	
ANL-W	INEEL	Accelerator Treated Waste (eight actinide burnup experiments)	Actinides				? / ?					Packaging has not been identified yet. Specification 6M drums are too short for the experiments as they are currently configured.	
INEEL	ANL-E	Accelerator Treated Waste (eight actinide burnup experiments)	Actinides, fission products, neutron activation of non-fuel components	GE-100			? / ?	? / ?				There is a concern that potential regulatory changes may affect availability of GE-100 [2].	
Germany	INEEL	Pebble Bed Modular Reactor (fuel experiment)	Unirradiated Uranium-based fuel compound	Unknown		? / ?						Expect the packaging will be a German Type A (IAEA compliant)	
INEEL	Oak Ridge	Pebble Bed Modular Reactor (fuel experiment)	Actinides, fission products, neutron activation of non-fuel components	GE-100							? / ?	There is a concern that potential regulatory changes may affect availability of GE-100 [2].	

ATR Non-Naval Reactors Experiments (Fissile)

Shipper	Receiver	Material	Radionuclide(s)	Package	IPABS Stream #	Workload in Packages / Shipments per Year						Gaps	Recommended Action – Responsible Party
						FY02	FY03	FY04	FY05	FY06	TBD		
ANL-W	INEEL	(additional) RERTR fuel experiment(s)	Unirradiated Uranium-based fuel compound	6M							? / ?	There is a concern that potential regulatory changes may affect availability of Specification 6M's [1].	
INEEL	ANL-E	(additional) RERTR fuel experiment(s)	Actinides, fission products, neutron activation of non-fuel components	GE-100							? / ?	There is a concern that potential regulatory changes may affect availability of GE-100 [2].	

NOTES:

1. DOT Specification 6M Type B fissile packages have historically been the principal package for receiving domestic shipments of fissile experiments at the ATR Canal and the TRA Hotcells. A long history of use means that the procedures for handling them are well understood. However, Specification 6M drums are to be phased out – there is already a moratorium on some types of usage within the DOE complex. More robust (thus expensive) packagings have been cited as replacements.

   Nominally this is an issue for the shipper, not the receiver (other than preparing procedures to handle and unload – not a major effort). Thus, there is little, if any, concern for receipt activities at the ATR Canal or the TRA Hotcells. But, there is another matter relative to storage after receipt. Once received, fissile experiments may require interim storage pending final assembly or reactor insertion. Approved storage is limited at TRA for fissile materials (subcriticality control and Safeguards issues). The ATR is best suited to handle significant quantities of fissile material in interim storage (in the ATR Canal), provided all the Technical Safety Requirements are met. But, ATR is only well suited if the experiment arrives in its final in-reactor configuration or can easily be assembled at receipt into its final in-reactor configuration. ATR is not well suited for performing more complicated experiment assembly (i.e. assembly involving welding). The proposed incorporation of an assembly area into the TRA Hotcells is intended to provide this capability.

   However, the TRA Hotcells cannot store nearly as much fissile material as ATR. The TRA Hotcells safety requirements could theoretically pose limitations that preclude receiving some experiments for final assembly (e.g. the first four proposed ANL-W ATW experiments contain in aggregate more fissile material than the old Hotcells SAR would permit into the facility). But, safety requirements do state that if fissile material is stored in DOT approved Type B packages that are used in accordance with their certification, then that fissile material does not count against the inventory or stored fissile material. The use of Specification 6M Type B fissile packages in the new assembly area in the TRA Hotcells was expressly envisioned for this

purpose. The Specification 6M's were ideal because they tend to be light enough to be easily handled and manipulated in storage. Given they are to be removed from service, an alternative is needed.

AT ISSUE THEN IS THAT INTERIM STORAGE OF FISSILE MATERIAL IN THE PROPOSED NEW ASSEMBLY AREA OF THE TRA HOTCELLS MAY BECOME PROBLEMATIC GIVEN THAT THE REPLACEMENT OF SPECIFICATION 6M's MOST LIKELY WILL BE MORE ROBUST (HEAVIER) AND HARDER TO HANDLE. THE CONSEQUENCES WOULD BE A MORE LIMITED STORAGE CAPABILITY FOR THE GIVEN SPACE, AS WELL AS THE POTENTIAL OF REQUIRING THE USE OF MATERIAL HANDLING EQUIPMENT THAT OTHERWISE WOULD NOT HAVE BEEN NEEDED FOR THE 6M's.

2. The GE-100 Type B shipping cask has historically been the principal package for making domestic shipments of experiments from the ATR Canal. It has a long history of use at ATR, hence the ATR procedures for handling it are well developed. However, change is being considered to the packaging and transportation regulations, which if implemented as proposed, would most likely remove this cask from service. Basically, the overall change is to make the U. S. packaging and transporation regulations compatible with the international packaging and transportation regulations. The specific change being considered that would affect the GE-100 is the elimination of the 'grandfathering' of all previous designs of radioactive materials packagings. The proposed change would only 'grandfather' the two previous generations of design/fabrication/use/et.al. requirements. Once in effect, the change would stipulate that the older designs either be brought up to current requirements or removed from service.

   Given that the GE-100 is a commercially-owned cask, if the change as indicated above were to become effective, the response of the owner can only be speculated upon . Given the vintage of the GE-100 design (late 1960's), the suspicion is strong that the GE-100 cannot be brought into compliance. GE's response regarding a replacement would again only be speculative. Assuming there is no response, an alternate packaging would be required.

   The principal factors that affect the selection of alternates for use at ATR are weight and height. The ATR Technical Safety Requirements limit weight to no more than 40,000 pounds; the ATR Canal water depth limits heights to a practical limit of no taller than approximately eight feet. Noting these factors for ATR, the same must be taken into account for the receiving facility. The only other casks used at ATR in the recent past have both been GE-owned casks – their models 1500 and 2000. The GE-1500 is in the same predicament as the GE-100 regarding vintage, but the GE-2000 is not. However, the GE-2000, being the largest, is not suitable for handling at some of the receiving facilities (e.g. ANL-E).

   The 'fleet' of casks from which to select other candidates is small. Other candidate casks of the appropriate size for use at ATR include the BMI-1 and the CNS 1-13-series. All of these are the same vintage as the GE-100.

   AT ISSUE THEN IS THE POTENTIAL IN THE NOT-TO-DISTANT FUTURE THAT THERE MIGHT BE ONLY A SINGLE CASK AVAILABLE FOR SHIPPING EXPERIMENTS FROM ATR, OR, IF SO LIMITED BY THE RECEIVING FACILITY, NONE AT ALL.